Department for Transport

UK Seafarer Projections: 2016 to 2026

Modelling suggests that the total supply of UK seafarers could increase by around 4 per cent between 2016 and 2026[1].

About this release

This document provides **updated forecasts** for the estimated supply of UK seafarers over the next 10 years using the latest available 2016 data. It also summarises some of the main underlying assumptions within the projection model.

The projections presented reflect past trends in the availability of different types of seafarers, based on information from industry research and survey data on seafarer employment. The assumptions informing these projections, and therefore the projections themselves, **are subject to uncertainty**.

In this publication

Key findings

In 2016, the total supply of seafarers who are UK nationals for roles at sea is estimated to be 30,240 and modelling suggests this could rise to 31,310 in 2026, representing a 4 per cent increase. There are however substantial differences for seafarers fulfilling different roles.

Overall, the total supply of UK **officers** in 2026 is expected to be 7 per cent lower than in 2016.

- The supply of both deck and engine officers is projected to fall by more than 30 per cent.

- Forecasts suggest strong growth in the number of technical officers which is expected to more than double, attributable largely to a relatively high joining rate for this type of seafarer.

Figure 1: Projected supply of UK officers, 2016 to 2026 ([SFR0111](#))

Deck officers ↓33%
Hotel & other officers ↑26%
Engine officers ↓36%
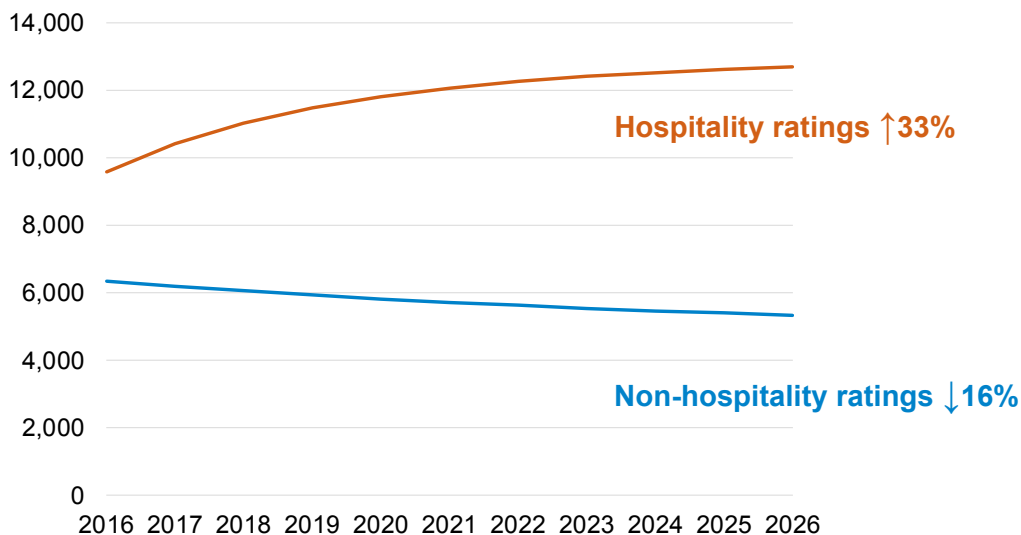Technical officers ↑186%
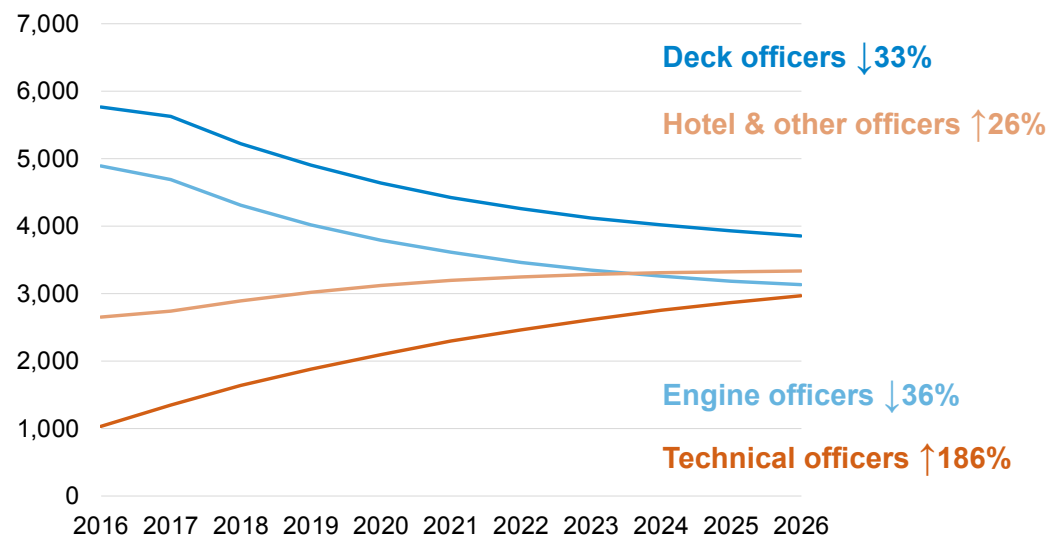
1. Users should be aware that estimates presented here do not match those contained within the *Seafarer Statistics*. The differences between these statistics are explained on page 3.

In contrast to the supply of UK officers, the total supply of UK **ratings** is projected to rise by 13 per cent between 2016 and 2026. Again there is a large amount of variation for different types of ratings.

- A fall of around 16 per cent is expected for ratings working in non-hospitality departments, in contrast to growth in the region of 30 per cent for hospitality ratings.

Figure 2: Projected supply of UK ratings, 2016 to 2026 ([SFR0111](SFR0111))

Hospitality ratings ↑33%

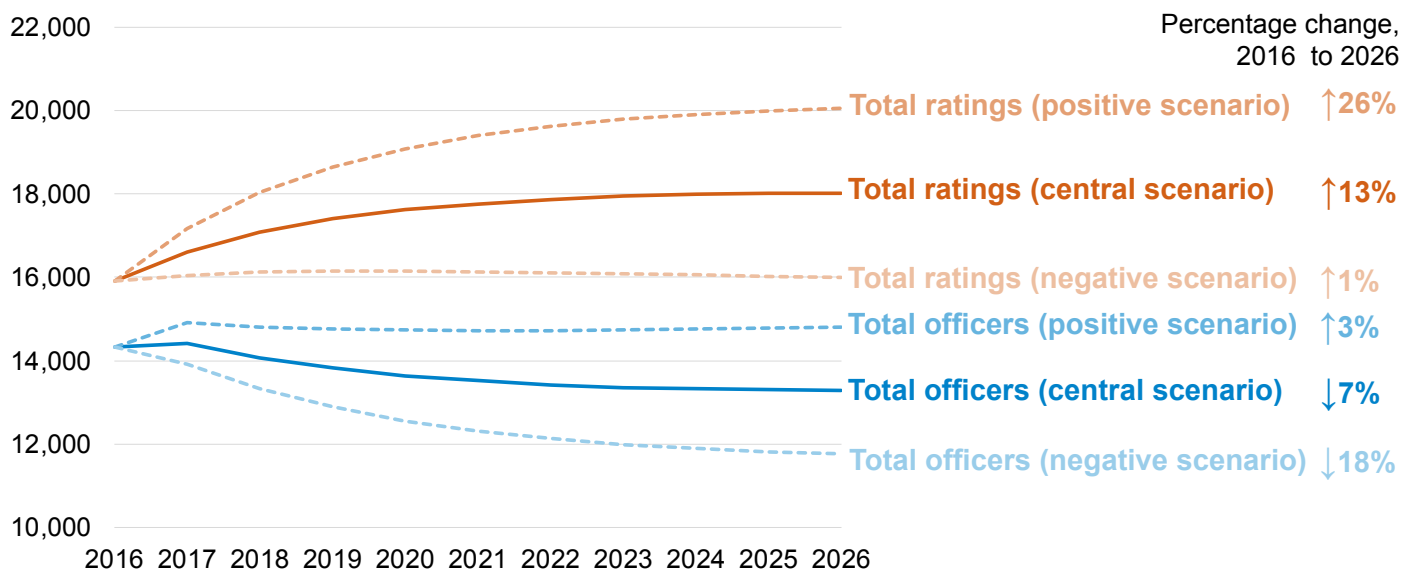**Non-hospitality ratings ↓16%**

Sensitivity testing

To **explore the potential impact of fewer young people choosing a career at sea**, a sensitivity test was run in which the number of UK joiners aged under 30 is reduced by 25 per cent for each category of officer and rating (all other assumptions were left unchanged).

- Under this scenario the biggest impact was on the supply of UK officers which fell by 18 per cent between 2016 and 2026, compared to only a 7 per cent fall under the original assumptions.

- The total supply of UK ratings increased by 1 per cent, instead of 13 per cent, whilst the number of hospitality ratings grew at a more subdued rate of 13 per cent instead of 33 per cent.

Non-hospitality ratings refer to ratings working in deck, engine, technical or general purpose roles, while **hospitality ratings** refer to those ratings working in hotel, catering or other service roles.

In 2016, a seafarer projections review was carried out by Oxford Economics on behalf of the Department for Transport (DfT), aiming to estimate the supply of and demand for seafarers in the UK shipping industry over the period to 2026. A report, *UK Seafarer Projections*, detailing the forecasts and providing the assumptions behind them was published in January 2017.

The forecasts presented in this release assume that there are no substantial policy changes. However, the *Maritime Growth Study* suggested that there is scope for improving the attractiveness of careers at sea. The extent to which any initiative is successfully implemented is likely to affect the supply of UK seafarers joining the industry.

A sensitivity test was also conducted for the opposite scenario in which there is a 25 per cent increase in the number of UK joiners in each category.

- As with the previous sensitivity test, there was a considerable impact on the number of officers, which in this scenario increased by 3 per cent over the forecast period instead of falling.

- The trend in the supply of non-hospitality ratings remained fairly unchanged from the original scenario, however the growth in hospitality ratings increased by over 50 per cent.

Figure 3: Sensitivity scenarios for the supply of UK seafarers, 2016 to 2026 (SFR0112)

Percentage change, 2016 to 2026

Total ratings (positive scenario) ↑26%
Total ratings (central scenario) ↑13%
Total ratings (negative scenario) ↑1%
Total officers (positive scenario) ↑3%
Total officers (central scenario) ↓7%
Total officers (negative scenario) ↓18%

The modelling approach

The forecast for the supply of seafarers is a based on a simple stock and flow model of UK seafarers which takes the total number of seafarers of each age in a given base year and combines it with different assumptions about the rates of seafarers leaving and joining the industry to create a projection for the availability of seafarers over time.

It should be noted that **the approach used to estimate the number of UK seafarers for the purposes of the projection differ to the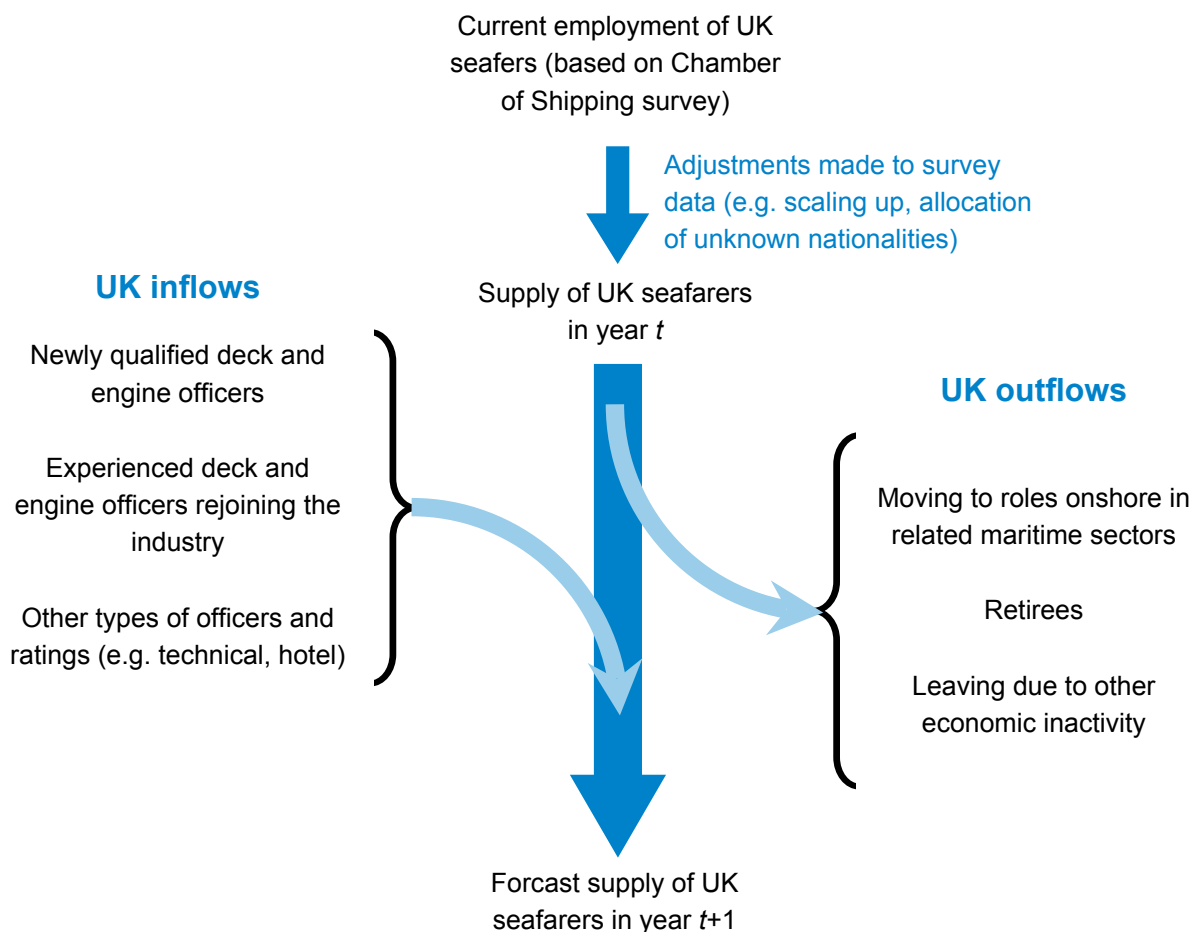 analysis presented in official *Seafarer Statistics***. Official *Seafarer Statistics* are based purely on data gathered by the Maritime & Coastguard Agency (MCA) and UK Chamber of Shipping Manpower Survey without any adjustments being made. In addition, any data where the nationality of the seafarer has not been recorded are excluded.

Data from the UK Chamber of Shipping Manpower Survey have been modified for the purposes of the projection model. In order to make a robust forecast, an estimation of the number of employed seafarers used as inputs in the projection model have been made using the following processes:

- The data for some types of officers and ratings from the survey, which only represent a sample of UK shipping companies, have been scaled up to provide a more representative figure of active seafarers.

- An allocation of officers and ratings of unknown nationality have been made between the UK, other EEA and Rest of World nationality groups based on the proportions of seafarers where a nationality was recorded.

- Trends in the ratios of some types of seafarers allocated between the UK, other EEA and Rest of World nationality groups have been averaged out to reduce any distortions in the data arising from different survey response rates.

Further details of the assumptions and processes used to estimate the number of seafarers in the UK shipping industry can be found in the Appendix of the *UK Seafarer Projections* report.

Figure 4: Summary of the UK seafarer supply modelling approach

Current employment of UK seafers (based on Chamber of Shipping survey)

Adjustments made to survey data (e.g. scaling up, allocation of unknown nationalities)

UK inflows

Supply of UK seafarers in year *t*

Newly qualified deck and engine officers

Experienced deck and engine officers rejoining the industry

Other types of officers and ratings (e.g. technical, hotel)

UK outflows

Moving to roles onshore in related maritime sectors

Retirees

Leaving due to other economic inactivity

Forcast supply of UK seafarers in year *t*+1

The forecasting model is based on a series of assumptions about the rate of different types of seafarers joining and leaving the industry.
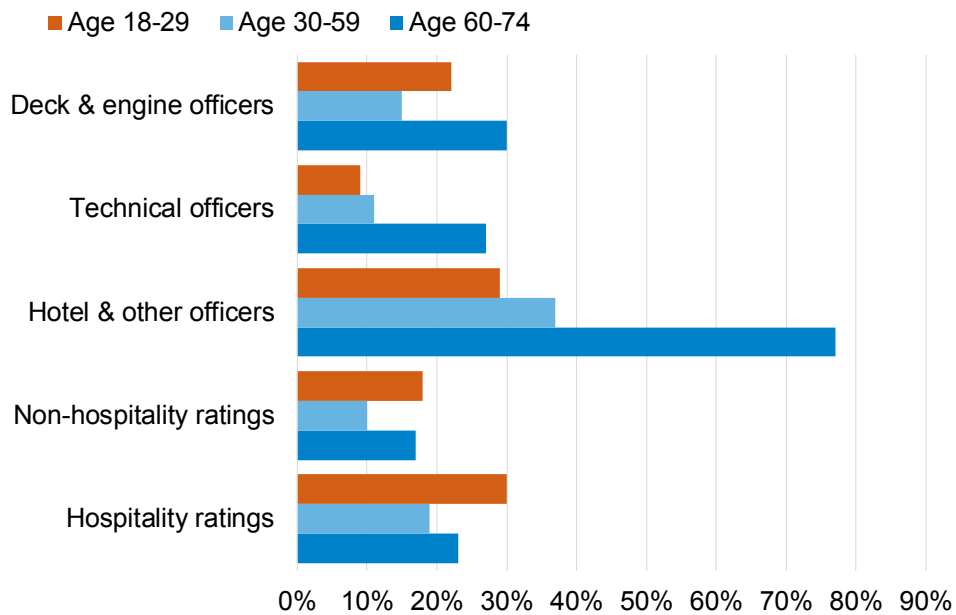
UK inflows

- **Officers (deck and engine new recruits):** Historical data between 2010/11 and 2014/15 identified the average flow of new officer cadets receiving training to be 828 per annum. Further, it is assumed that new trainees leave training prior to completion at an annual average rate of 8% (this figure is consistent with previous studies and in accordance with the latest data from the MCA). Together this suggests that just under 650 newly qualified officers will become available each year.

- **Officers (re-joiners):** Based on analysis of the 2014 and 2015 Manpower Survey, it is assumed that a proportion of seafarers joining the industry will be deck and engine officers with previous experience and are returning to these roles following a period working elsewhere, or after a period of inactivity.

- **Other officers and ratings:** The annual inflow of other types of UK officers and ratings (e.g. technical, hotel) is also estimated using the 2014 and 2015 Manpower Survey and varies considerably according to the age group and type of role being performed.

UK outflows

- The total proportion of UK seafarers leaving the industry varies according to the type of role, the age of the individual and whether the seafarer is an officer or rating (see Figure 5). The main reason for seafarers leaving the industry are retirement, moving to roles onshore in related maritime sectors or becoming economically inactive.

- Further key assumptions are that those aged 60 or over leave the sector solely in order to retire, and that those seafarers with less than four years of sea experience do not leave to take up onshore roles.

- Leaving rates generally reflect higher turnover rates amongst officers and ratings working in hospitality roles, and for those aged 60 and over.

Figure 5: Annual leaving rates of UK seafarers by role and age group

Legend: ■ Age 18-29 ■ Age 30-59 ■ Age 60-74

Chart categories (top to bottom): Deck & engine officers, Technical officers, Hotel & other officers, Non-hospitality ratings, Hospitality ratings

X-axis: 0% 10% 20% 30% 40% 50% 60% 70% 80% 90%

- Whilst official *Seafarer Statistics* for the number of UK certificated officers active at sea (Table SFR0102) employ an assumed uniform retirement age of 62 or 65, this assumption is not enforced in the projection model. Instead, the model incorporates a weighted range of ages for retirement between 60 and 75 years of age to account for those seafarers who may take early or late retirement.

Age profiles

- The age profiles of seafarers have been constructed using data from the MCA Seafarer Documentation System (SDS) for UK certificated officers and all available data from the UK Chamber of Shipping Manpower Survey.

- In 2016, the Manpower Survey collected aggregate data using age bands, it is therefore no longer possible to identify seafarers by individual ages. The distribution of ages from the 2015 Manpower Survey was applied to the 2016 data to create an age profile for use in the model as it unlikely that the age distribution of seafarers would change drastically within one year.

Further information

This release is accompanied with data tables (SFR0111 and SFR0112) containing the outputs of the seafarer projection model for different types of seafarers and can be found here: https://www.gov.uk/government/statistics/seafarer-statistics-2016. The numbers in this document have been rounded to the nearest 10.

This release compliments the *Seafarer Statistics* available from the Department for Transport website at: https://www.gov.uk/government/collections/maritime-and-shipping-statistics.

An assessment of the UK supply and demand for seafarers, for which this release draws upon, was carried out by Oxford Economics in 2016 and contains detailed information about the modelling approach, assumptions and outcomes of the seafarer projections can be found here: https://www.gov.uk/government/publications/maritime-growth-uk-seafarer-projections. This assessment was commissioned to address specific recommendations that emerged from the *Maritime Growth Study*.

This assessment provided a review to an earlier study conducted in 2011 on the supply and demand of UK seafarers which can be found here: https://www.gov.uk/government/publications/an-independent-review-of-the-economic-requirement-for-trained-seafarers-in-the-uk.

User feedback

We welcome users' views on the content and layout, and whether there is anything else we could do to better meet users' needs.

Any feedback can be sent by email to Maritime.Stats@dft.gsi.gov.uk, or you can call 020 7944 2126.